



## **A 9.2 STRATEGY FOR WALKING AND CYCLING**

<b>CONTENTS</b>		<b>Page no.</b>
	<b>SUMMARY</b>	<b>3</b>
<b>1</b>	<b>INTRODUCTION</b>	<b>4</b>
<b>1.1</b>	<b>General</b>	<b>4</b>
<b>1.2</b>	<b>Limitations</b>	<b>4</b>
<b>2</b>	<b>Study Area Description</b>	<b>4</b>
<b>2.1</b>	<b>Existing situation</b>	<b>4</b>
<b>3</b>	<b>Current and already planned schemes</b>	<b>4</b>
<b>3.1</b>	<b>Data collection</b>	<b>4</b>
<b>3.2</b>	<b>Existing targets and objectives</b>	<b>5</b>
<b>3.3</b>	<b>Consultations with Executive Bodies</b>	<b>7</b>
<b>3.4</b>	<b>Greater Nottingham Local Transport Plan programme</b>	<b>8</b>
<b>4</b>	<b>STUDY REVIEW AND RECOMMENDATIONS</b>	<b>9</b>
<b>4.2</b>	<b>The Study area outside Greater Nottingham</b>	<b>12</b>
<b>4.3</b>	<b>Design and maintenance of footways and cycleways</b>	<b>14</b>
<b>4.4</b>	<b>Safe routes to schools</b>	<b>14</b>
<b>4.5</b>	<b>Horse riding</b>	<b>15</b>
<b>4.6</b>	<b>The connection with Travel Behaviour</b>	<b>15</b>

## SUMMARY

This Paper has been compiled as part of the A453 Multi Modal Study to examine the existing cycle and pedestrian network and identify proposals to update, improve, or extend the network in the future, and thereby encourage these modes of travel. Recommendations under a strategy for walking and cycling have then been made by Pell Frischmann, based on data collected and relevant site inspections. Current policies for walking and cycling are considered with the perspective of the present travel patterns and demand and possible future trends.

The existing patterns and numbers of walking and cycle trips are described in the Study Survey Report. It shows a familiar situation with short distance movements with similar peak hours to motorised travel. The most common purposes are to and from home, work or school. In the year 2000 in the A453 corridor 2% of surveyed trips over 300m in length were by bicycle and 18% on foot, most in the urban areas.

There is scope for achieving transfer from other modes into cycle and walking trips by the schemes and in response to Demand Management of travel by private motor vehicles. The target of doubling current figures is not unreasonable. However, the factors affecting the transfer cannot all be analysed technically. Whilst time and cost are as always major influences, convenience, safety, health, enjoyment are amongst others affecting choice. Definitive forecasts for future walking and cycle trips cannot be made with confidence and are therefore not attempted.

Opportunities for change are largely governed by what improvements can be achieved in practice. This Appendix examines these improvements and considers how they can promote change. It also highlights for further attention problem areas that cannot reasonably form recommended schemes within the remit of this Study.

In general terms improvements in the urban part of the corridor have two main constraints: the existing cycle network, and the restricted space of the built-up urban fabric. Schemes from the Study consist mainly of protecting and upgrading the existing facilities and users. In the rural part of the corridor there are different opportunities, with new facilities to reverse the deterioration in conditions over recent decades by creating new footways or cycleways, especially 'missing links' in the larger network.

This Study is limited to making recommendations arising from the perspective of the Multi Modal analysis of the A453 corridor. Implementing any of the schemes or interventions is a matter for the responsible authorities and it is acknowledged that a great deal of work has already been done in this area. The particular value of this Study for cycling and walking as for other aspects of transport is the integrated view, across modal, geographical, and functional boundaries.

Although expressly concerned with cycling and walking both as a necessity and for leisure, this Appendix also considers horse riding.

## **1. INTRODUCTION**

### **1.1 General**

This report has been prepared as part of the A453 Corridor Multi Modal Study to:

- assess the current situation for walking and cycling within the study area.
- consider prospects for improvement and transfer from other modes of travel
- identify cycle and pedestrian schemes for recommendation within a Preferred Transport Option.

Although there are some important differences in the problems and solutions for walking compared with cycling, many more are common to both. The report therefore looks at them together, drawing attention to one or the other when necessary.

Information has been compiled with assistance from Nottingham City Council, Nottinghamshire County Council, and Rushcliffe Borough Council, in addition to that compiled from the Local Transport Plan for Leicestershire, the Surface Access Strategy Report written for East Midlands Airport and various other Ordnance Survey maps and published information.

### **1.2 Limitations**

Information has been collected from the sources as detailed in Section 3.1 of this Appendix. Whilst every effort has been made to collect details of all current and proposed schemes within the Study area, it is recognised that there may be other projects which have been inadvertently omitted during this data collection exercise.

## **2. STUDY AREA DESCRIPTION**

### **2.1 Existing Situation**

The study area for walking and cycling is that for the Study as a whole, from Central Nottingham to Junction 24 on the M1 along the A453 corridor, crossing the M1 to the East Midlands Airport site and Castle Donington. The majority of the area at the north-eastern extent of the A453 corridor (e.g. Clifton and West Bridgford) already has an established network of cycle and pedestrian routes, whilst the far south-western area is relatively bare of routes.

It has to be recognised that there are fewer potential trips by cyclists and pedestrians to workplaces, schools and other local facilities in the rural south-west area than there is within Greater Nottingham and Derby.

There are a number of centres currently generating concentrations of pedestrian and cycle trips:- Nottingham Trent University Clifton Campus, The Colleges and schools in Clifton, Boots the Chemists at Beeston, County Hall, West Bridgford, and other large employers, but they are not dominant in the overall volume and pattern of movement. The first two however, are more closely tied to the transport issues of the A453.

### **3. CURRENT AND ALREADY PLANNED SCHEMES**

#### **3.1 Data Collection**

This section refers to the collection of data held by others outside the Study.

Enquiries were made from the following sources to assemble the current picture of the existing cycle and pedestrian network along the A453 corridor and to identify schemes proposed for the future.

- Nottingham City Council (Trunk Roads, Environment and Highways Departments)
- Nottinghamshire County Council (Rural Environment Department)
- The PlaN Consortium (based on staff from Nottinghamshire County Council, Leicestershire County Council and Parkman, working on behalf of the Highways Agency)
- Rushcliffe Borough Council Planning Department
- The Nottingham Travel Wise web site.
- Local Transport Plan for Leicestershire
- Surface Access Strategy Report written for East Midlands Airport
- Other Ordnance Survey maps and published information

In addition, the Local branch of the Ramblers Association, the Cyclists Touring Club and the Nottingham campaign group PEDALS have been invited to contribute through the Wider Reference Group consultations during the Study.

The information on the existing networks were then transferred onto plans complete with the extensions already proposed and additional improvements suggested by Pell Frischmann (Figures 1 and 2 at the end of this appendix). Extensions to the cycle network are recommended in both Clifton and West Bridgford to provide a “cycle to school” network as travel plan reports compiled in 1998 and 1999 for Fairham Community College and Farnborough Comprehensive School concluded. Movement along and across the A453 in Clifton has been incorporated in the highway schemes. In addition routes for both cyclists and pedestrians have been suggested in the south west of the study area near to Barton, Thrumpton, Kegworth, Castle Donington and Ratcliffe on Soar to provide links between the local communities and with the Power Station.

#### **3.2 Existing Targets and Objectives**

Objectives flow from the five Central Government objectives for transport (environment, safety, economy, accessibility and integration). They are established criteria in the Local Transport Plans (LTPs) of the Local Highway Authorities, which have also set targets for achievement. Together with Sustrans, the organisation with a charitable base and multi source funding set up to promote a national cycle network, are the major drivers towards achieving the objectives. Details from the LTPs and from East Midlands Airport are set out below.

The LTPs have a shorter time span than this Study. This Study has to take a longer and wider view including consideration of the more ambitious national targets.

### **3.2.1 Objectives in the Local Transport Plan**

The following details have been taken from the Local Transport Plans for Greater Nottingham and Leicestershire 2001/2 – 2005/6 and also information as listed on the Nottingham Travel Wise web site.

- Plan objective for Greater Nottingham: To encourage safe walking and cycling for short journeys including travel to schools, shops and other local facilities.
- Leicestershire Local Transport strategies for walking and cycling: To reduce danger to and casualties among pedestrians. Make walking safe and seen to be safe compared with other modes. Ensure the best facilities and encouragement for walking from the whole transport network. Ensure ready access by foot and public transport to development. Improve disabled access. Promote the image of walking. To improve and monitor progress on Rights of Way including applications for grants principally from the Countryside Commission.  
Expansion of safe and convenient cycle route networks. Develop and promote cycle parking, repair, commuter packaging of cycle sales, and changing facilities. Improve and expand cycle training.

NATA Objectives: (NATA: DETR New Approach to [Transport] Appraisal)

- To protect and enhance the built and natural environment to improve safety for all travellers
- To promote accessibility for everyday facilities for all, especially those without a car

National Targets;

- Promoting and increasing Cycle use from a 1996 base, doubling by 2002 and again by 2012
- Promoting and increasing Walking

### **3.2.2 Plan Area Targets in the Local Transport Plan for Greater Nottingham**

- Short distance routes (below 2 miles) to key employment, shopping centres, schools and other facilities
- Links to bus stops and bus and rail stations
- Routes with pedestrian casualty records
- Links from low car availability/ high social need to local facilities
- Routes identified through consultation
- Cycling to work (general) + 6.5% by 2011
- Cycling to work (for businesses adopting plans) + 20% by 2011
- Walking to work/ short journeys +20% by 2006
- Increase modal (cycle) share
- Reduce cycling casualty rate
- Reduce cycle theft
- High quality network
- Implement cycleway audits

Immediate Target from 2001 Census:

- Increase people walking and cycling to work from 14% to 15% in plan area as a whole.

### **3.2.3 Plan area targets Leicestershire LTP**

- 15% Increase in walking where School Travel Plans have been implemented.
- More signposting and recording of footpath routes
- Quadruple cycle trips associated with new facilities.
- 50km of new cycleway

### **3.2.4 Government Targets**

Reduce accidents by 1/3 by 2010 involving fatal and serious outcomes

### **3.2.5 East Midlands Airport Targets**

These Pedestrian and Cycle Network Targets are as identified within the Surface Access Strategy compiled in May 2000.

Targets:

- To encourage walking and cycling to and around the site through the provision of off road routes and secure cycle parking.
- To install and maintain additional cycle racks in 2002 and also in 2005 commensurate with demand.
- To install and maintain changing facilities for cyclists in 2002 and also in 2005 commensurate with demand.
- To install and maintain a complete cycle route through the airport site by the end of 2005.
- To produce or facilitate the production of cycle route information leaflets for travel to and around the site. These will be produced on an annual basis and be available to passengers, staff and the local community.

East Midlands Airport Cycling Objectives:

- Install (in collaboration with others) combined cycle and pedestrian paths along two major routes into the site, namely the A453 from Kegworth and the C8214 Castle Donington.
- Install intra site cycle paths.
- Consider additional cycle racks, changing facilities, lockers and other cyclist benefits.
- Set up a bicycle user group.
- Consider the provision of pool cycles for intra site travel.
- Consider the introduction of loans to employees for the purchase of bikes and bike gear.

Walking Objectives;

- Maintain a number of concessionary foot and bridle paths around the airport – although these are considered for leisure orientations only.
- Seek to install combined cycle and pedestrian paths on the A453 from Kegworth and the C8214 Castle Donington.

- New intra-site paths, and maintaining them to a high standard.
- Consider future needs of the pedestrian and provide dedicated, safe pedestrian access to all areas of employment on future schemes.

### **3.3 Response from Consultations**

The investigations were taken further for the main Study area by consulting Nottingham City and Nottinghamshire County Councils on details of their programmes.

#### **3.3.1 Nottingham City Council Response on Cycle Schemes**

Nottingham City Council gave the following schemes as those completed recently, in progress or programmed for future completion.

##### **2000- 2001**

- Noble Road Home Zone - completed

##### **2001- 2002**

- Farnborough Road, Clifton cycle link
- Clifton traffic calming - completed

##### **2002- 2003**

- Compton Acres to Nottingham City Centre cycle link - shown as a proposed route on “The Greater Nottingham Cyclists Guide”
- Ruddington Lane cycle link - shown as a proposed route on “The Greater Nottingham Cyclists Guide”
- River Trent Embankment – Bee Bank cycle link - shown as a proposed route on “The Greater Nottingham Cyclists Guide”

Local transport Plan Cycling Schemes 2002- 2006 (Sustrans)

- River Trent Crossing at Beeston/ Clifton - not shown on plan but identified from walkover to be necessary
- Nottingham – Loughborough cycle route – not shown.

#### **3.3.2 Nottinghamshire County Council Response on Cycle Schemes**

The enquiry was also passed directly to the PlaN Consortium, made up of staff from Nottinghamshire County Council, Leicestershire County Council and Parkman Consultants, all working directly for the Highways Agency. The PlaN Consortium is responsible for trunk roads from junction 24 to Clifton Bridge and around the Queens Drive area. They were aware of the following scheme:

- Fabis Drive/ Farnborough Road – phasing alteration for pedestrians at the traffic signal junction, although no junction improvements are scheduled.

Discussions with Nottinghamshire County Councils Senior Cycle Officer, indicated future routes as detailed below;

- Clifton to the proposed East Midlands Parkway Station Interchange and existing Power Station at Ratcliffe on Soar, at the present time this is not a firm scheme but more of an interest in possible schemes by affected parties.

- Intentions for cycle access through the Power station in addition to a new cycle provision along the A453. The Power Station managers have expressed interest in this scheme, but again a programmed route or routes have not been finalised and the scheme remains at an interest only stage at this present time.
- University Clifton Campus cycle routes to be extended south, as at the moment they end at the Crusader Roundabout. No current firm plans, but interest from the university.
- connect with the Beeston side. A new crossing, as proposed by Nottingham City Council.
- Kegworth: No plans at present although some routes considered by the Power Station management do coincide with this area.

### **3.3.3 Nottinghamshire County Council Response to Pedestrian Scheme Enquiry**

No details of current schemes for access purposes only have been supplied.

### **3.4 Greater Nottingham Local Transport Plan programme**

The programme in the LTP is shown in Table 3 at the end of this Appendix for reference purposes.

## **4.0 STUDY REVIEW AND RECOMMENDATIONS**

### **4.1 A Walking and Cycling Strategy**

- 4.1.1 A separate strategy is set out for this Study in order to give a perspective to the review and recommendations. It draws on the existing national and local strategies, but with emphasis on the multi modal context. There are many reasons why walking and cycling as a regular means of travel is decreasing, linked to many of the other aspects of Multi Modal Study. Table 1 at the end of this Appendix illustrates this point. Improvements for any one of them would make a positive contribution.

The Strategy is to:

- encourage walking and cycling by improving conditions using all opportunities to create better facilities
- identify the individual causes of problems for pedestrians and cyclists and deal with each of them directly by schemes or indirectly by action on related travel and transport issues.
- set targets for more walking and cycling.

### **4.1 Study Area within Greater Nottingham**

This is the segment from the southern limit of Clifton, Ruddington, and West Bridgford extending towards Nottingham City centre. Attention is focussed on the A453 corridor because of the more localised nature of the mode, whilst recognising the different role and characteristics of leisure trips.

#### **4.1.1 The pattern of demand**

The Study Travel Survey provided useful but limited information. Further detail is a matter for others concerned with specific cycle and walking projects to pursue. Conclusions and recommendations can nevertheless be legitimately drawn.

The survey measured pedestrian and cycle flows directly on the main thoroughfares of University Boulevard, Beeston canalside, Thane Road, Clifton Bridge, and Silverdale Walk. Many of the trips were to and from Nottingham City centre. General numbers of trips over 300m generated in each of the model zones were obtained through the household surveys. These also show the peak flows within the daily distribution, the proportion of trips for the range of purposes, and the small proportion of longer distance trips that started or finished outside the Study area. It does not show the short trips made entirely within the zones set up for modelling purposes. For the full details the Survey Report may be referred to.

#### **4.1.2 The Travel Survey information**

The significance of this information has to be considered, bearing in mind that the household interview survey did not record trips of less than 300m in length. Certain observations can be made:

- Over 90% of walking and cycle trips can be regarded as a necessity for day to day living if visiting friends is included, the remainder being for leisure, although for some there will be a health element for this as well. Over one third of journeys are to and from work.
- The proportion of walking and cycling trips overall is 18% and 3% of all journeys respectively. The numbers measured by track-side survey were low, indicating a substantial proportion of shorter trips within a locality or neighbourhood not picked up by this method. This is what would be expected for the pattern of housing and employment in the area.
- For over half the cycle and walking trips a car was not available.
- Around half of all trips in the Study area as a whole are less than 3 miles long, suggesting potential for future change of mode.

The overall picture for the Greater Nottingham segment of the A453 corridor is:

- A spread of local neighbourhood trips, including walking to and from bus stops
- A well-defined longer route for pedestrians and cyclists alongside A453 at Silverdale, and the same across Clifton Bridge for cyclists, to and from Nottingham City centre area.
- Concentrations of movements around schools, and although not specifically surveyed, around the other generators of trips such as the Clifton Campus of Nottingham Trent University and colleges, and the shopping centre on Southchurch Drive.
- A small number of much longer distance cycle and walking trips for leisure.

#### **4.1.3 The need for improvements**

Any increase in cycle and walking would result in little change in the existing pattern of movements except for more walking to public transport stops and as a result of School Travel Plans. The Transport Model indicates change of mode to public transport involving hundreds of people in the peak hour whereas a target increase in cycling from 2 to 4% corresponds to less than 50 in the same period. It would be invidious to forecast and provide based exclusively on existing surveyed movements.

The criteria for actions are: convenient, well-linked routes with a high degree of safety and personal security are required in order to attract and serve users.

Other suggestions have been made, mainly for servicing cyclists, such as secure parking, and quick rescue and repair services. These have value as part of a checklist at detailed project level. More detailed guidance emerges from the analysis of problems and remedies in Table 1 on page 10 of this Appendix.

The overall philosophy can be concluded from Table 1 together with the preceding paragraphs of section 4 of this Appendix. Opportunities to improve the pedestrian and cycling network can be sought using a toolkit of measures and checks, including recommendations for indirect action outside the normal field of the Transport Providers.

The standard of existing facilities varies from wide well surfaced paths with good visibility, separated from the road edge, to difficult spots, especially crossings, with conflict and danger. Despite the controls offered by pelican crossings, there have been several pedestrian injury accidents at those on the A453. The precise causes are not fully recorded, but such accidents typically follow a pattern, suggesting a way of approaching improvements. There are certain important missing links.

#### **4.1.4 Improvement schemes**

Away from the A453 the minor roads in Clifton are reasonably safe and useable, but problems exist on the spine roads of Southchurch Drive and Farnborough Road for pedestrians at crossing points and for cyclists along the length. Recent traffic calming work by Nottingham City Council should improve matters for pedestrians, especially if monitored and residual issues dealt with, but cycling along these roads can be daunting. New separate cycle routes are not possible. Provision would have to be made on the highway. Investigation of a shared footway/cycleway is recommended.

Highway crossings require particular attention. Within Clifton the raised tables and kerb build-outs should help. It is recommended that their performance is monitored and if necessary further measures introduced. Cycle priority at junctions and crossings is to assist cycling with traffic along a road and is most appropriate where several cyclists would line up at the head of a queue on a narrow carriageway. Such a circumstance is not apparent at this level of investigation.

Pedestrians and cyclists can safely share most crossings, but where there are greater numbers the crossings would need to be widened or even segregated. This would apply to the Pelicans on the A453, where it is also recommended that as part of the improvement of safety, the traffic signals should have the conventional phases of operation rather than the flashing amber phase and 'puffin' detectors.

For any at-grade A453 layout carrying the trunk road traffic through Clifton the crossings present a particular problem. It is important that the existing crossing points are retained, as they serve well established movements. Every effort needs to be made to enhance them if walking and cycling is to be encouraged. At present they severely limit the road traffic, and even with the full application of demand management would be the major source of congestion at the unacceptable current levels or worse during the Study period. The options are underpasses or bridges, or splitting the crossings into two sections with a central island or incorporating them within the signal controlled roundabouts where possible. All have disadvantages, but the last option is the most favoured and familiar in urban surroundings, and is therefore recommended unless bridges can be fitted into the local topography to produce a user-friendly design. All the surface-level crossings should be designed to visually emphasise their presence and encourage discipline of use.

Generally, the urban facilities have as much personal security as can realistically be expected or achieved, and this represents an acceptable level that would not prevent an increase in use. There will however, be a number of very small-scale sites throughout capable of improvement, as revealed by the detailed studies in the past for safe school routes. These are beyond the scope of this Study, but it is recommended that they be investigated, as small scale area-wide actions could bring benefits.

There is also a large problem area around Clifton Bridge and the Queens Drive/Lenton Industrial estates. The environment here is hostile because of the isolation resulting from the open spaces associated with the large scale of the road infrastructure, maintained at a basic level, with no other human activity besides the traffic. Direction signing is needed at smaller intervals than the traditional approach would suggest. It has an additional role to serve, as a reassurance where the more normal street environment is missing.

Detailed improvements to shaping of verges and the addition of low growing planting would give more visible status and make worthwhile improvements to the attraction for users. Probably the most important improvement would be to install better quality lighting and conspicuously placed CCTV connected to the Urban Traffic Control Centre together with signs displaying that surveillance information.

Expansion of facilities throughout the Study area and even regionally and nationally will help to change attitudes towards cycling and walking, and so contribute towards achievement of the targets for the A453 corridor. To illustrate this point the route plans at the end of this Appendix include possible new routes over a wider area, including in particular West Bridgford.

A major scheme for a missing link, which also has some symbolic value, is a cycle/footbridge across the River Trent creating a direct route to Beeston.

Three locations have been identified:

- i) From Clifton village via a short approach link at the western end of Holgate, across the river at low level immediately north of the bend, then on a new track on the east bank on the line of the Trent Valley Way, to a new small bridge over the Beeston Canal to South Road, Beeston Rylands.
- ii) From Holgate as route i), but along the south bank of the river, to a new River Bridge constructed on the wier, and then to South Road as route i)
- iii) Via Fabis Drive and Wychnor Close, or from the existing A453 cycle track from a point north of Croxall Close on a new track and River Bridge veering south west to join the line of the footpath that crosses the canal at the southern limit of the Boots complex, and ending at the Roundabout on Humber Road south.

Routes i) and ii) have to negotiate a steep slope south of the River. All routes cross an isolated area with poor personal security, but sensitive to urbanisation with lighting. All routes would involve the high cost of construction (at least £2m) of a River Bridge alone. Forecasts of use would be largely speculative with the current information, but the catchment areas are not as dense as a city centre location. It could not be regarded as a core component of a preferred strategy.

However, the scheme could be a landmark project for walking and cycling in the Study area, and the recommendation is that it should be investigated further by others with an interest in promoting cycling and walking, including looking at a variety of possibilities for funding.

Other schemes for missing links are:

- i) Ruddington to Wilford by widening the existing footway to enable shared use along Wilford Road.
- ii) Ruddington to Clifton on Clifton Lane by signing as a cycle route and traffic calming.
- iii) Keyworth-Tollerton to Wilford-City via A606 shared footway, Landmere Lane, and Wilford Road, incorporating an A606 crossing in the Highways Agency's schemes for A60 and A606 junctions
- iv) Barton in Fabis. (See section 4.2 below)

#### **4.1.5 New Routes to Schools**

Routes proposed by Pell Frischmann as shown on Figure 1 at the end of this appendix have been suggested in the Clifton and West Bridgford area to link the school routes to the existing network. These routes have been suggested by Pell Frischmann as a result of the travel reports compiled for Farnborough Comprehensive School and Fairham Community College in 1999 and 1998 respectively, which indicated that more pupils would cycle to school if designated cycle lanes were available.

## **4.2 Study area outside Greater Nottingham**

### **4.2.1 Characteristics**

The area is largely rural, but East Midlands Airport, Kegworth, Gotham, Ratcliffe on Soar Power Station, the proposed Parkway Rail station, and Castle Donington are or will be centres generating walking and cycling journeys. Information about existing movements is very limited, but as for the Greater Nottingham area existing numbers are not the whole story: a typical pattern of present and future demand applies, and relevant conclusions can be drawn.

### **4.2.2 Movements and demand**

The distances between centres limits the amount of commuting trips. Kegworth, the Airport, Castle Donington, and Ratcliffe on Soar Power Station are within reach by cycle. Small but significant numbers make these trips, as supported by information from the public consultations.

The villages in the A453 corridor rely mainly on local minor roads for their connection. There are some important missing links. However, there are relatively fewer commuting trips and more leisure trips.

### **4.2.3 Improvement schemes**

As for the Greater Nottingham Area in section 4.1.4 above the strategy is to provide a quality network, but of a less dense pattern appropriate to the rural situation. The longer distances and lower levels of use result in a weaker economic case for construction of separate facilities especially cycleways, which typically can cost twice as much as new footways. Crossings or the unavoidable use of major roads are particularly important issues because of the high speeds of traffic and the proportion of larger goods vehicles.

The proposals in the East Midlands Airport Surface access Strategy address the issues within and around the airport. As suggested by the EMA Strategy the opportunity should be sought to create a Kegworth – Airport route for pedestrians and cyclists via Whatton Road and an A453 underpass adjacent to M1 junction 23a, incorporated in any future infrastructure works e.g. a Kegworth southern bypass.

Kegworth is connected to Castle Donington and Lockington via Long Lane over the A453, Warren Lane, and the currently unused parts of M1 junction 24a. This route also leads north west out of the Study area to the long distance Millenium Cycle Route at Sawley. It is important to fully recognise this connection and protect the route in any future infrastructure development.

A new and potentially valuable route for both medium and long distance use could be created along the length of the A453 corridor using some local roads, existing cycleways, and new links. The links would be:

- i) Via shared cycle/footways incorporated in the access roads crossing under the A453, for the proposed Parkway Station. These are included in principle in the Approved Planning Proposal for the Station
- ii) Parallel to the A453 along the frontage of the Power Station, joining the Parkway facility to the Thrumpton road.
- iii) Alongside the west side of the A453 on a new section of local road between the Thrumpton and Barton in Fabis roads.
- iv) Between Barton in Fabis and Clifton either via part of the existing Trent Valley way, or along New Lane/Barton Lane and the Clifton-Gotham Road C4. The former would be a higher quality facility, but would have some impact on the intimate environment at Clifton and Brands Hill Woods and might be better constructed as a separate track.

It is recommended that schemes ii) and iii) be incorporated in the A453 dualling scheme.

**Except where they sensibly apply only to cycling the recommendations above are intended to include longer distance walking routes.**

#### **4.2.4 Footways on Rural Roads**

In the rural areas there is a significant problem for pedestrians on minor roads with no footways and carrying fast moving traffic, deterring walking including trips to bus stops or rail stations. A new approach is needed for an effective solution. A rural standard of footway design should be adopted that would enable complete lengths of road to be provided with a footway at a manageable cost and in keeping with the local rural environment. The recommendation is for a 900mm wide footway standard, separated from the edge of the carriageway by verge, and constructed with a graded stone or optionally a bituminous paved surface. For other local roads improvements are recommended through Travel Behaviour interventions (see para. 4.6 below).

The following new standard footway schemes are recommended:

- i) Footway Barton Lane between A453 and Gotham Road C4
- ii) Footway between Kingston On Soar and Gotham

They should be complemented by an Awareness Campaign. (Travel Behaviour)

#### **4.2.5 Rights of Way**

The Study does not envisage making changes to the rural rights of way network. Apart from the new routes described in the preceding sections this Study needs to consider only the impact that schemes, mainly the road schemes, have on them. These impacts are addressed in the entries under Severance in the Appraisal Summary Tables for each scheme.

#### **4.3 Design and maintenance of footways and cycleways**

It is recommended that all facilities be of suitable quality to encourage maximum usage. Routes should be bituminous paved, or in the rural areas, surfaced with a durable graded gravel where possible and well signposted. Those used as a shared facility

especially with a pedestrian route or Bridleway should also be equipped with advisory signs to prevent conflict between users. Junction design and especially the placing of cycling direction signs should be undertaken with a cyclists' safety audit to ensure adequate advance visibility of the route ahead for cyclists. On the urban sections lighting should be supplied to improve visibility and landscaping should be designed to ensure that users feel safe to use the routes at all times.

#### **4.4 Safer Routes to School**

The County and City Councils are actively promoting an on-going programme to improve safety and encourage walking to school. It essentially involves an extensively co-ordinated effort by the Councils, School Governors, parents, and local residents working with a menu of highway, traffic management, and behavioural (consultation and campaign) measures to improve conditions. Most of the scope in the context of the A453 corridor is in Clifton. The programme was started in 1998 and is gaining momentum. There are eleven schools in Clifton of which one, Fairham Community College, has been developing a School travel Plan. The Fairham College Study indicated that about 4% of children's school journeys were by car, a low figure (i.e. less by car) compared with the national average, reflecting the characteristics of the development at Clifton. A School travel Plan looks at ways of reducing car journeys for children and staff, together with the associated traffic problems. Support for the Safe Routes to School programme is recommended as being the most effective approach for this subject.

New routes recommended for detailed investigation in the Clifton area (Figure 1 at the end of this appendix). They have been suggested to link the school routes to the existing network as a result of the travel reports compiled for Farnborough Comprehensive School and Fairham Community College in 1999 and 1998 respectively, which indicated that more pupils would cycle to school if designated cycle lanes were available.

#### **4.5 Horse riders**

Horse riding strictly is outside the brief of this Study to investigate Transport problems, but is enmeshed with walking and cycling, and affected by road schemes. The Study involvement for horse riding is largely as described in section 4.2.5 above on rights of way. It is recommended that Representative Groups be consulted for detailed suggestions on how to accommodate them and mitigate the impacts of all new works not just major road schemes. Often design details that appear irrelevant in infrastructure works can make a large difference for riders.

#### **4.6 The connection with Travel Behaviour**

Table 1 below shows how walking and cycling depends on a wide range of factors besides the physical provision of facilities. Whilst each measure would be a positive contribution, to achieve a substantial improvement requires concerted action. The schemes described would improve the pedestrian and cycle network, but many journeys still would use roads and footways in their current state.

One of the most frequent complaints heard is that pedestrians, cyclists and horse riders fear

for their safety in the presence of cars, lorries etc., a fear that is justified by the greater risk of injury accidents shown by the national road safety statistics. There is relationship with the speed and closeness, but noise and fumes are also factors.

Besides the individual schemes for pedestrians and cyclists the general road environment needs to be considered wherever it is shared by motorised traffic and others. As much of this concerns Travel Behaviour it is examined further, in the section of the Study Report on Travel Behaviour.

**TABLE 1**

**Problems and solutions for walking or cycling**

<b>HEADLINE CAUSE</b>	<b>CAUSE IN DETAIL</b>	<b>BASIC IMPROVEMENT</b>	<b>MULTI MODAL LINKAGE</b>
TIME/COST	Limited time available.  Time valued for other activity Customary acceptable limits (typically 20mins. per trip)	More direct routes. More local facilities/work. Better PT information/services. Balance against alternatives	Walk/cycle schemes. Bus/rail LRT information and integration schemes. Green commuter plans. Congestion and demand management shifting the balance from private cars.
JOURNEY LENGTH	Typical maximum range 1 mile walk, 5 mile cycle	More direct routes. Walk and cycle friendly development.	Walk/cycle schemes Planning regulations to assist walk/cycle
SAFETY	Conflict with traffic	Safety improvements	Road safety schemes
SECURITY	Isolation, hidden spaces. Cycle security.	Design improvements. Secure cycle parking.	Walk/cycle schemes Planning regulations to include facilities
COMFORT & CONVENIENCE	Physical discomfort, effort, laziness	Attention to quality of facilities.	Road/Rail/bus/LRT scheme integration. Information campaigns.
WEATHER	Rain and wind, ice and snow (especially cycling)	Detailed attention to environmental factors. Route audit of exposure.	Walk/cycle schemes. Planning regulations.
HOURS OF DARKNESS	Lack of street lighting. Problems of cycle lights.	Route audit of lighting. Regularisation and promotion of cycle lighting standards and marketing.	Walk/cycle schemes. Information campaigns. Cycle regulations.
CHILDREN, LUGGAGE OTHER PHYSICAL LIMITATIONS	Added safety problems. Infirmity. Colds, flu etc. Hills. Cycle tyre Punctures.	Flexibility in travel options. Design of cycle routes. New cycle tyre standards. Emergency callout insurance.	Integration of transport.  Cycle schemes. Recommendations for external action.
PROBLEMS WITH PUBLIC TRANSPORT (IF PART OF PT JOURNEY)	Excessive waiting at stops. Poor waiting environment. Poor quality PT vehicles and services. Problems with cycles on public transport.	Public transport improvements.	Public transport schemes.  Recommendations for external action.
NOISE, FUMES, AGGRAVATION	Close proximity with traffic especially heavy vehicles. Extra noise and fumes at junctions. Unfriendly crossings.	Attention to detail of design of footways and cycleways. Regulation of motor traffic and vehicles.	Walk/cycle schemes. Traffic management schemes. Recommendations for external action.
ATTITUDES	Antipathy between modes. As part of PT journeys:- Desire for individual status. Dislike of close contact. Standards of behaviour	Information and education. Improvements in public transport vehicle design, maintenance, and security systems.	Recommendations for external action.



*MULTI-MODAL STUDY  
A453 NOTTINGHAM TO M1 JUNCTION 24  
FINAL REPORT  
APPENDIX 9.2*

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